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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/771,961	01/29/2001	C. Alexander Turner JR.	LEX-0121-USA	9694

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LEXICON GENETICS INCORPORATED
8800 TECHNOLOGY FOREST PLACE
THE WOODLANDS, TX 77381-1160

EXAMINER

HAMUD, FOZIA M

ART UNIT	PAPER NUMBER
1647	

DATE MAILED: 12/30/2002

(o)

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/771,961

Applicant(s)

Turner et al.

Examiner

Fozia Hamud

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on Oct 8, 2002

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-8 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-8 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892)

4) Interview Summary (PTO-413) Paper No(s). _____

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

5) Notice of Informal Patent Application (PTO-152)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

6) Other: _____

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DETAILED ACTION

1. Receipt of Applicant's arguments and amendment, filed on 08 October 2002 in Paper No.9, is acknowledged. Claims 1 and 2 have been amended and claims 5-8 have been added. Thus claims 1-8 are pending and under consideration.
2. The following previous rejections and objections are withdrawn in light of Applicants amendments filed in Paper No.9, 10/08/02:
 - (I) The rejection of claim 1, made under 35 U.S.C. § 112, second paragraph for re citing "NHP".
 - (II) The rejection of claims 1 and 2 made under 35 U.S.C. § 102(b) as being anticipated by Hillier et al (05/16/1997).
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Applicant's arguments and amendment filed in Paper No.9, 10/08/02, have been fully considered but were deemed persuasive in part. The issues remaining are restated below.

Claim Rejections - 35 U.S.C. § 101/112

- 5a. Claims 1-4 stand rejected under 35 U.S.C. 101, and new claims 5-8 are rejected under 35 U.S.C. § 101, for reasons of record, set forth in the office action mailed on 07/02/02 in Paper No:8, pages 2-5, and reiterated here, because the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility. Applicants submit the following arguments regarding to this rejection.

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I. While citing various case laws, Applicants state that the “threshold of utility is not high” and to violate 35 U.S.C. § 101 the claimed invention “must be totally incapable of achieving a useful result”. Applicants argue that the Examiner has failed to establish that the claimed polynucleotides and the encoded polypeptide is totally incapable of achieving a useful result. This argument is not found persuasive. The Examiner has established that the claimed polynucleotide (which Applicants describe as encoding a novel human proteins), is not supported by either a specific and substantial asserted utility or a well established utility, because the specification does not establish a nexus between the claimed invention and a physiological process, neither does it disclose any specific information of the protein encoded by the claimed nucleic acid. Although, all DNAs can be used as hybridization probes, and all polypeptides can be used to make antibodies, however, these utilities are neither specific nor substantial.

II. Applicants assert that this case is similar to *in re Brana*, in which the Federal Circuit admonished the P.T.O. for confusing “the requirement under the law for obtaining a patent with the requirement for obtaining government approval to market a particular drug for human consumption”. Applicants are correct in that the requirement of obtaining a patent is not the same as that of obtaining an FDA approval, however, instant case is not similar to *in re Brana*, because, in *In re Brana*, 34 USPQ 1436, 1441 (Fed. Cir. 1995), compounds with specific structure and specific activity were claimed. Thus, in that case evidence of success in structurally similar compounds was relevant in determining whether one skilled in the art would believe an asserted utility; therefore, an implicit assertion of a tumor target was sufficiently specific to satisfy the threshold utility

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requirement. Furthermore, *in re Brana*, provided test results showing that several compounds within the scope of the claims exhibited significant antitumor activity against standard tumor model *in vivo*. However, instant Applicants do not provide an activity for the protein encoded by the claimed polynucleotide, nor do they provide the physiological significance of this protein, only, an assertion is made that the protein of the instant application is similar to CD82 family of proteins.

III. Applicants argue that the action recognizes that the proteins of the instant invention are membrane proteins similar to CD82, a family of proteins with a common, well established specific and substantial utility. Applicants submit sequence comparison of SEQ ID NO:2 of the instant Application to those of IPI00083978.2, asserting that the claimed sequences are similar to those of CD82 antigen, also known as inducible membrane protein R2, C33 antigen, IA4, metastasis Suppressor Kangi and Suppressor Tumorigenicity-6. Thus Applicants conclude that given the convincing evidence that the protein of the instant invention is a membrane protein similar to CD82, it clearly has credible utility. This argument is not deemed persuasive. Contrary to Applicants argument, the office action mailed office action mailed on 07/02/02 in Paper No:8, *only* recognized that the specification described the novel human proteins encoded by the claimed nucleic acid as having structural similarity with membrane receptors such as, but not limited to mammalian CD82 and CD37. However, upon examining the sequences submitted by the Applicants, it appears that the polypeptide of SEQ ID NO:2 of the instant application is not related to the CD82, because the submitted sequences have no homology to instant SEQ ID NO:2. Sequences search for the polynucleotide of SEQ ID NO:1 and the polypeptide of SEQ ID NO:2, reveal that instant SEQ ID

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NO:1 and SEQ ID NO:2 share 100% homology to a BCL-like polynucleotide and polypeptide, respectively, (see attached copy of the comparison of SEQ ID NO:1 claimed in the instant invention and the sequences of the references (SEQUENCE COMPARISON ‘B’ and “C”). Thus, instant specification as originally filed, failed to disclose that protein of the instant invention is a member of the CD82 family. Even if the protein of the instant invention is a member of the CD82 family, Applicants have not demonstrated that there is a common biological activity for all the members of this family.

IV. Finally, Applicants argue that, as just one of example of utility for the present nucleotide sequences is that they can be used to track the expression of the genes encoding the described proteins, as a gene chip format to provide high throughput analysis of the level of gene expression. Applicants contend that such “DNA chips” clearly have utility as evidenced by hundreds of issued patents. Applicants also argue that the present nucleotide sequences are human membrane proteins similar to CD82 antigen and provide unique identifier of the corresponding gene. This argument is also, not deemed persuasive. No meaningful information will be obtained from tracking the level of expression of the claimed nucleotide, because there is no physiological or biological significance attached to these nucleotides or the encoded proteins. The first requirement is that one must know the biological significance of the polynucleotide(s) which is(are) being evaluated. Without this information, the results of the transcript image are useless because one would not know if the polynucleotide expression should be increased or decreased or even what significance could be attributed to such changes in expression profiles. Applicants’ assertion that “DNA chips” have utility

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is correct, however, instant application is not claiming "gene chips", (devices not much larger than postage stamps, that are based on a glass substrate wafer and contain many tiny cells - 400,000 is common, each holding DNA from a different human gene). The Patents listed by Applicants all describe a pioneering and efficient means of large scale production of miniaturized oligonucleotide arrays for sequencing, diagnostic and forensics analysis. Thus, the fact that the claimed nucleotide can be used in a DNA chip, does not provide the claimed sequences with specific and substantial utility, because without knowing the significance of the instant polynucleotide or the activity of the encoded protein, using the claimed polynucleotide in a gene chip would not yield any useful information.

Therefore, the isolated nucleic acid comprising the nucleotide sequence set forth in SEQ ID NO:1, encodes a polypeptide of as yet undetermined function or biological significance, thus, unless Applicants demonstrate the physiological significance or the biological role of the instant polynucleotide and the protein it encodes, the claimed invention is not supported by either a specific and substantially asserted utility or a well established utility.

The claimed invention stands rejected under 35 U.S.C. 112, first paragraph, since the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claim Rejections - 35 U.S.C. §112

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6a. The rejection of claim 2 made under 35 U.S.C. 112, second paragraph, for reciting “..... hybridizes under stringent conditions....”, is maintained for the reasons of record, set forth in the office action mailed on 07/02/02 in Paper No:8, page 6. Applicants amend claim 2 by reciting “highly stringent”. Applicants assert that support for the hybridization conditions is provided in the specification on page 3, lines 30-33, however, the instant specification only gives exemplary hybridization conditions. To obviate this rejection, Applicant must recite the specific highly stringent conditions.

New rejections necessitated by Applicant's amendments:

Claim Rejections - 35 U.S.C. § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7a. Claims 6 and 8 are rejected under 35 U.S.C. 101 because the claimed invention is directed to a non-statutory subject matter. Claims 6 and 8 recite “a cell”, which encompasses the cell, as it occurs in nature, for example, as a gene therapy patient. However, since Applicants do not intend to claim a naturally occurring products amendment of the claims to show the hand of man would obviate this rejection. It is suggested that claims 6 and 8 be amended to recite “an isolated cell.....”. Appropriate correction is required.

Conclusion

8. No claim is allowed.

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9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Advisory Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fozia Hamud whose telephone number is (703) 308-8891. The examiner can normally be reached on Monday-Thursday from 8:00AM to 4:30PM (Eastern time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Kunz, can be reached on (703) 308-4623.

Official papers filed by fax should be directed to (703) 308-4227. Faxed draft or informal communications with the examiner should be directed to (703) 308-0294.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Fozia Hamud
Patent Examiner
Art Unit 1647
26 December 2002

Yvonne Eyer
YVONNE EYLER, PH
SUPERVISORY PATENT F
TECHNOLOGY CENTER

Sequence Comparison

B:

The present sequence is a cDNA encoding human BCL-X-like protein. The BCL-X-like polynucleotides are useful in therapeutic, diagnostic and pharmacogenomic applications. They are useful for screening drugs effective in the treatment of symptomatic or phenotypic manifestations perturbing the normal function of protein in the body and also for treating physiological disorders and diseases. The BCL-X-like polynucleotides are useful in conjunction with polymerase chain reaction to screen libraries, isolate clones, to prepare cloning and sequencing templates and as hybridisation probes for assessing gene expression patterns.

Sequence 984 BP; 289 A; 230 C; 250 G; 215 T; 0 other;

RESULT 2
 QY 721 ctgtccatcttttcaagaccatcacagaccaggcttaatgggtgtggcccaagg 780
 XX ||||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 DB 721 ctgtccatcttttcaagaccatcacagaccaggcttaatgggtgtggcccaagg 780.
 QY 781 ggaggatcadaggcaaaacttgggttaaggctgccttgtaaatagacgtcaccggc 840
 XX ||||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 DB 781 ggaggatcadaggcaaaacttgggttaaggctgccttgtaaatagacgtcaccggc 840
 QY 841 aagtcacacatattgacaaccacccatgtacgggtcttgccaccaagt 900
 XX ||||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 DB 841 aagtcacacatattgacaaccacccatgtacgggtcttgccaccaagt 900
 QY 901 ctgaaaagagacttctcgccatgtccggcggcggggaaatacttgg 960
 XX ||||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 DB 901 ctgaaaagagacttctcgccatgtccggcggcggggaaatacttgg 960
 QY 961 attatacatgaaagagaatgtca 984
 XX ||||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

DB 961 attatacatgaaagagaatgtca 984

RESULT 2
 QY 721 ctgtccatcttttcaagaccatcacagaccaggcttaatgggtgtggcccaagg 780
 XX ||||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 ID AAH22582 standard; cDNA; 1179 BP.
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 AC AAH22582;
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 DT 07-SEP-2001 (first entry)
 XX ||||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 DE Human Bcl-G1 polypeptide encoding cDNA.
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 KW Bcl-G; cancer; cancer therapy; oncogene; apoptosis; Bcl-G1; cytostatic;
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 OS Homo sapiens.
 XX ||||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 FR Key Location/Qualifiers
 FT CDS 196..1179
 FT /*tag_ a
 FT /product= "Bcl-G1"
 RN WO20014282-A2.
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 PD 21-JUN-2001.
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 PP 13-DEC-2000; 2000WO-US33793.
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 PR 14-DEC-1999; 99US-0461641.
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 PA (BURN-) BURNHAM INST.
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 RE Reed JC, Godzik A;
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 DR WPI; 2001-398125/42.
 DR -PSDB; AAB85166.
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 PT Novel polynucleotide encoding Bcl-G polypeptide, useful for modulating
 XX ||||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 PT apoptosis, and for diagnosing and treating cancer
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 RS Claim 3; FIG 1; 117PP; English.
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The invention relates to Bcl-G polypeptides and nucleic acids encoding them. The Bcl-G polypeptides can be expressed by standard recombinant methodology. Bcl-G Oligonucleotides (or its anti-sense strand) and Bcl-G specific antibodies are useful for diagnosing cancer, monitoring cancer therapy or assessing prognosis of patients with cancer. The Bcl-G polypeptides are useful for modulating the activity of an oncogenic polypeptides. They are useful for identifying modulators, for modulating a level of apoptosis mediated by the Bcl-G Polypeptide. A therapeutic composition comprising the Bcl-G polypeptide, polynucleotide or antibody is useful for treating a pathology characterized by abnormal cell proliferation especially cancer. The present sequence represents a cDNA

cfd
6/12/02

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OM protein - protein search, using sw model

Run on:

June 19, 2002, 16:32:27 ; Search time 53.19 Seconds

(without alignments)
682.856 Million cell updates/sec

Title: US-09-771-961-2

Perfect score: 1799

Sequence: I MCSTGCDLEFIPDDDDLN.....WIQQHGKGWEKIGISHEEV 327

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 747574 seqs, 11073796 residues

Total number of hits satisfying chosen parameters:

747574

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

A_Geneseq_032802:*

1: /SIDS1/gcdata/hold-geneseq/geneseqp-emb1/AA1980.DAT:*

2: /SIDS1/gcdata/hold-geneseq/geneseqp-emb1/AA1981.DAT:*

3: /SIDS1/gcdata/hold-geneseq/geneseqp-emb1/AA1982.DAT:*

4: /SIDS1/gcdata/hold-geneseq/geneseqp-emb1/AA1983.DAT:*

5: /SIDS1/gcdata/hold-geneseq/geneseqp-emb1/AA1984.DAT:*

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21: /SIDS1/gcdata/hold-geneseq/geneseqp-emb1/AA2000.DAT:*

22: /SIDS1/gcdata/hold-geneseq/geneseqp-emb1/AA2001.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match Length	DB ID	Description
1	1709	100.0	327	Human BCL-X-like p
2	1709	100.0	327	Human BCL-GI polyp
3	1189.5	69.6	252	Human BCL-X-like p
4	1189.5	69.6	252	Human Bcl-Gs Polyp
5	929.5	54.4	328	Human Bcl-G Polypeptide
6	691.5	40.5	22	Human reproductive peptide #612
7	686	40.1	129	Human peptide #612
8	686	40.1	129	Peptide #639 encoded
9	686	40.1	129	Protein #597 encoded
10	686	40.1	129	Human brain expresses
11	686	40.1	22	Human bone marrow

Human

ALIGNMENTS

Sequence Company C

Peptide #620 encoded
Peptide #633 encoded
Peptide #604 encoded
Novel human diagnosis
LRR-Bcl-XL apoptosis
Deprenyl® (RTMI-1
Bcl-XL-DTR apoptosis
Chicken lymphoid B
Apoptosis associated
Rat wild-type Bcl-X
Human thymus BCL-X
Bcl-XL protein. Human anti-apoptotic
Bcl-X polypeptides
Human Bcl-X protein
Human Bcl-XL protein
Protein encoded by mouse Bcl-X gamma
Mutant bcl-X protein
Human polypeptides
Mutant rat Bcl-X
Peptide #651 encoded
Protein #655 encoded
Human brain expresses
Human bone marrow
Peptide #984 encoded
Human Bcl-XL (trans
Arabidopsis thaliana
Arabidopsis thaliana
Arabidopsis thaliana
Haemophilus influenzae
Human secreted protein
Human secreted protein

RESULT 1
ID AAE07040 standard; Protein: 327 AA.
XX AAE07040;
XX 23-OCT-2001 (first entry)
DT Human BCL-X-like protein #1.
DE Human BCL-X-like protein #1.
XX Human; BCL-X-like protein; therapy; physiological disorder.
XX Homo sapiens.
OS WO20017213-A2.
PN XX
PD 09-AUG-2001 ✓
XX 31-JAN-2001; 2001WO-US03446.
XX PR 04-FEB-2000; 2000US-0180412.
XX PA (LEXI-) LEXICON GENETICS INC.
XX PI Donoho G, Hilburn E, Turner CA, Friedrich G, Abuin A, Zambrowicz B;
PI Sands AT;
XX WPI; 2001-48882/53.
DR N-PSDB; AAD13235.
XX Novel isolated human BCL-X-like polynucleotide, useful in therapeutic,
PT diagnostic and pharmacogenic applications
XX Claim 4; Page 30-31; 33pp; English.

Sequence Comparison

Page 2.

XX

CC The present sequence is human BCL-X-like protein.

CC BCL-X-like polynucleotides are useful in therapeutic, diagnostic

CC and pharmacogenetic applications. They are useful for screening drugs

CC effective in the treatment of symptomatic or phenotypic manifestations

CC treating the normal function of protein in the body and also for

CC Polynucleotides are useful in conjunction with polymerase chain

CC reaction to screen libraries, isolate clones, to prepare cloning

CC and sequencing templates and as hybridisation probes for assessing

CC gene expression patterns.

SQ Sequence 327 AA;

Query Match 100.0%; Score 1709; DB 22; Length 327;
Best Local Similarity 100.0%; Pred. No. 8.1e-166;
Matches 327; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MCSTSGCDLEIPADDINTIEFKILAYTRRHVKSTPALESPLKLRRLSQRGLGN 60

Db 1 mctsgcdleipaddintiefkiliaytrrhvfkstpalfsplklrlrsqrgln 60

QY 61 CSANESWTEVSWPCRNQSSEKAINLGKKSSWKAFFGVEEDSOSTPAKVSAGQRTL 120

Db 61 csanewtevswpcrnqssekaingkksswkaaffgveedsgstpavsaqqrtl 120

QY 121 EYODHSQOWRSRCLSNVQECLHEAVDPKVISIANRVAETVYSWPPQATOAGGERKEI 180

Db 121 eyqdsisqwsqrclsnveclheavdpkvianrvaevyswppqatqaggfkskei 180

QY 181 FVTTEGLSFOLQGHYPVASSSKDEEEQILAKVELKYSGDQLERLKDKALMGHQDG 240

Db 181 fvtsglsfqlgghypassskdeeqilakvellykgdqlerlkdkalmgfhdg 240

QY 241 LSYSVFKTIDQVLMGVDPGESEVRAQGFKAALVIDVTAKTIAIDNHPMNRVLGFSTKY 300

Db 241 lsysvfktidqvmlgvdpgesevraqgfkaalividvtaktaidnhpnnrvlfqtky 300

QY 301 LKENFSPWIOQHGWKEKGIGSHEND 327

Db 301 lkenfspwioqhgwekgigshend 327

RESULT 2

AAB85166 standard; Protein: 327 AA.

AC AAB85166;

XX DT 07-SEP-2001 (first entry)

DB Human Bcl-G1 polypeptide.

KW Bcl-G: cancer; cancer therapy; oncogene; apoptosis; Bcl-G1; cytostatic;

KW antiapoptotic; chromosome 12p12.3; human.

KW Homo sapiens.

XX WO20014282-A2;

XX PD 21-JUN-2001.

XX PF 13-DEC-2000; 2000WO-US33793.

XX PR 14-DEC-1999; 99US-0461641.

XX PA (BURN-) BURNHAM INST.

XX PI Reed JC, Godzik A;

XX DR WPT; 2001-398125/42.

DR NPSDB; AAH22582.

XX

PT Novel polynucleotide encoding Bcl-G polypeptide, useful for modulating apoptosis, and for diagnosing and treating cancer

PT Claim 14; Fig 2; 117pp; English.

CC The invention relates to Bcl-G polypeptides and nucleic acids encoding them. The Bcl-G polypeptides can be expressed by standard recombinant methodology. Bcl-G oligonucleotides (or its anti-sense strand) and Bcl-G specific antibodies are useful for diagnosing cancer, monitoring cancer therapy or assessing prognosis of patients with cancer. The Bcl-G polypeptides are useful for modulating the activity of an oncogenic polypeptide. They are useful for identifying modulators, for modulating a level of apoptosis mediated by the Bcl-G polypeptide. A therapeutic composition comprising the Bcl-G polypeptide, polynucleotide or antibody is useful for treating a pathology characterized by abnormal cell proliferation especially cancer. The present sequence represents a human Bcl-G1 polypeptide.

SQ Sequence 327 AA;

Query Match 100.0%; Score 1709; DB 22; Length 327;
Best Local Similarity 100.0%; Pred. No. 8.1e-166;
Matches 327; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MCSSSGCDLEIPADDINTIEFKILAYTRRHVKSTPALESPLKLRRLSQRGLGN 60

Db 1 mctsgcdleipaddintiefkiliaytrrhvfkstpalfsplklrlrsqrgln 60

QY 61 CSANESWTEVSWPCRNQSSEKAINLGKKSSWKAFFGVEEDSOSTPAKVSAGQRTL 120

Db 61 csanewtevswpcrnqssekaingkksswkaaffgveedsgstpavsaqqrtl 120

QY 121 EYODHSQOWRSRCLSNVQECLHEAVDPKVISIANRVAETVYSWPPQATOAGGERKEI 180

Db 121 eyqdsisqwsqrclsnveclheavdpkvianrvaevyswppqatqaggfkskei 180

QY 181 FVTTEGLSFOLQGHYPVASSSKDEEEQILAKVELKYSGDQLERLKDKALMGHQDG 240

Db 181 fvtsglsfqlgghypassskdeeqilakvellykgdqlerlkdkalmgfhdg 240

QY 241 LSYSVFKTIDQVLMGVDPGESEVRAQGFKAALVIDVTAKTIAIDNHPMNRVLGFSTKY 300

Db 241 lsysvfktidqvmlgvdpgesevraqgfkaalividvtaktaidnhpnnrvlfqtky 300

QY 301 LKENFSPWIOQHGWKEKGIGSHEND 327

Db 301 lkenfspwioqhgwekgigshend 327

RESULT 3

AAE07041 standard; Protein: 252 AA.

AC AAE07041;

XX DT 23-OCT-2001 (first entry)

XX DE Human BCL-X-like protein #2.

XX Human; BCL-X-like protein; therapy; physiological disorder.

XX Homo sapiens.

XX WO200157213-A2.

XX PD 09-APR-2001.

XX PI 31-JAN-2001; 2001WO-US03446.

XX PR 04-FEB-2000; 2000US-0180412.

XX

PT The present sequence is human BCL-X-like protein.

CC BCL-X-like polynucleotides are useful in therapeutic, diagnostic and pharmacogenetic applications. They are useful for screening drugs effective in the treatment of symptomatic or phenotypic manifestations

CC treating the normal function of protein in the body and also for

CC Polynucleotides are useful in conjunction with polymerase chain reaction to screen libraries, isolate clones, to prepare cloning

CC and sequencing templates and as hybridisation probes for assessing gene expression patterns.

SQ Sequence 327 AA;

Query Match 100.0%; Score 1709; DB 22; Length 327;
Best Local Similarity 100.0%; Pred. No. 8.1e-166;
Matches 327; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MCSTSGCDLEIPADDINTIEFKILAYTRRHVKSTPALESPLKLRRLSQRGLGN 60

Db 1 mctsgcdleipaddintiefkiliaytrrhvfkstpalfsplklrlrsqrgln 60

QY 61 CSANESWTEVSWPCRNQSSEKAINLGKKSSWKAFFGVEEDSOSTPAKVSAGQRTL 120

Db 61 csanewtevswpcrnqssekaingkksswkaaffgveedsgstpavsaqqrtl 120

QY 121 EYODHSQOWRSRCLSNVQECLHEAVDPKVISIANRVAETVYSWPPQATOAGGERKEI 180

Db 121 eyqdsisqwsqrclsnveclheavdpkvianrvaevyswppqatqaggfkskei 180

QY 181 FVTTEGLSFOLQGHYPVASSSKDEEEQILAKVELKYSGDQLERLKDKALMGHQDG 240

Db 181 fvtsglsfqlgghypassskdeeqilakvellykgdqlerlkdkalmgfhdg 240

QY 241 LSYSVFKTIDQVLMGVDPGESEVRAQGFKAALVIDVTAKTIAIDNHPMNRVLGFSTKY 300

Db 241 lsysvfktidqvmlgvdpgesevraqgfkaalividvtaktaidnhpnnrvlfqtky 300

QY 301 LKENFSPWIOQHGWKEKGIGSHEND 327

Db 301 lkenfspwioqhgwekgigshend 327